METEOROLOGY

Inaugural Day Weather

Weathermen urge shift of Inauguration Day to November, purely on scientific grounds. This is month of least rain and snow in Washington. No forecast yet of Jan. 20 weather.

➤ INAUGURATION DAY should be in November.

This is a scientific, not a political, opinion, coming from meteorologists. However, some political leaders have suggested it would be more efficient if there were not so long a time lapse between election and inauguration.

Weathermen point out that November is the month of least precipitation in Washington—an average of only 2.37 inches falls during the entire month. And temperatures are likely to be mild or just nippy enough to encourage the parade marchers to step out briskly.

As yet there can be no definite prediction concerning what kind of weather will beset President Truman and President-elect Eisenhower as they ride down Pennsylvania Avenue in an open car to the Capitol building for the inaugural ceremony.

Long-range Forecaster Jerome Namias of the Weather Bureau refuses to be committed to anything beyond Jan. 15, the last day of his present extended forecast period. We may have a hint, however, on Jan. 2, when his forecast for the month of January comes out.

An offer to prevent rain or snow on Inauguration Day, for a sum, was generally scoffed at in Weather Bureau offices. It was pointed out that any rain or snow seen in Washington in January is generally spread over a wide area. Even if rainmakers could stop precipitation, it was said, they would have to go some to stop that much.

The change in 1937 from March 4 to Jan. 20 for Inauguration Day was a good one so far as weather is concerned. Seven out of the ten March 4 inaugurations before President Roosevelt's second on Jan. 20, 1937, saw rain or snow. President Taft, in 1909, was forced indoors by a blizzard.

If the four inaugurations on Jan. 20 from 1937 through 1949 had been held on March 4, there would have been little difference in weather conditions. One and three-fourths inches of rain on Jan. 20, 1937, compares with only .02 inch on March 4. In 1941, both days were below freezing. In 1945, there was snow in the morning and sun in the afternoon on both days, and in 1949 at noon on both days, conditions were almost exactly alike.

Science News Letter, December 27, 1952

RADIO

Lowering of Radio Roof

➤ THE FORMATION of the radio roof high above the earth and its lowering to the usual daytime level have been recorded at sunrise. This radio roof is the higher ionized layer which bounces radio waves back to the earth so they can be picked up great distances from the broadcasting station.

Just as the sun begins to rise, the daytime radio reflecting layer begins to form at apparent heights between 180 and 350 miles above the earth's surface, Dr. B. N. Bhargava of Kodaikanal Observatory, India, reports in *Nature* (Dec. 6). It is the sun's ultraviolet rays that ionize the atmosphere.

The new layer rapidly gets lower and lower until it merges with the ever-present nighttime layer, usually 125 to 150 miles high, and there it settles down to the usual daytime level. This is the layer which controls the maximum usable frequency during the daytime.

The lowering of the radio roof was recorded by sending radio signals directly overhead at one-minute or two-minute intervals and noting how long it took them to return. The rapid descent of the daytime radio reflecting layer has previously been missed because the signals are usually sent 15 minutes apart.

"The sunrise effect and the ground sunrise were simultaneous during the month of March," Dr. Bhargava found in his five-month study. During April the ionospheric effect occurred two minutes after the ground sunrise, and during May, June and July it occurred three and one-half minutes, six minutes and five minutes, respectively, before the ground sunrise, the astronomer reports.

Science News Letter, December 27, 1952

TECHNOLOGY

Proper Building Solves Danger From Earthquake

➤ A STUDY of the great California earthquake of last summer shows that "the solution of the earthquake problem is simply to build wisely by choosing proper design and appropriate materials."

This is the opinion of two earthquake experts, Dr. John P. Buwalda and Pierre St. Amand, of the California Institute of Technology.

"The Arvin earthquake taught the same lesson that shocks in different parts of the world have taught humanity for decades: that earthquakes, *per se,* rarely harm anyone; that structures designed to be earthquake-resistant suffer little or not at all," they said.

But walls, parapets and building fronts made of brick, adobe or concrete blocks that are not reinforced with steel and tied securely to the remainder of the building, collapse or fall outward, harming persons near them and permitting the interiors of the structures to fall, they declared.

"Safety from earthquakes is more easily attainable than safety from floods, tornadoes, hurricanes and some other natural hazards," the experts concluded. Their opinions were stated in *Science* (Dec. 12).

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ENTOMOLOGY

Inert Insecticide Material Helps Kill

➤ THE NON-POISONOUS, so-called "inert," materials added to insecticide mixtures actually increase the killing effect of the poison.

Dr. T. C. Helvey, New York State University Teachers College, Oneonta, N. Y., finds these dusts probably absorb the waxy covering around an insect's outer skeleton, thereby allowing the poison to penetrate and do its deadly job more efficiently.

The shape of the inert dust particles is very important, he said. Materials with sharp edges and points do not have the effectiveness of smoother, rounder dust particles.

Most effective inert materials in insecticides tested by Dr. Helvey were several clays, fuller's earth and asbestine. Least effective tested were two talcs and filter material. Dr. Helvey's report was made in *Science* (Dec. 5).

Science News Letter, December 27, 1952

TECHNOLOGY

Dry Ore Refining Uses Electrical Separation

➤ A DRY electrical process for obtaining potash and phosphate concentrates from the ores in which they are found, announced by Louis Ware, International Minerals & Chemical Corporation, Carlsbad, N. M., is said to be more economical than usual methods. These require use of chemical reagents or water.

The new method of refining ore will be known as the LeBaron-Lawver dry beneficiation process, taking the name from the two staff members of the corporation responsible for its development. In the process, the ore is ground, dried and given a simple and inexpensive treatment. The fine ore is then passed between electrodes that separate it into its various minerals. A large potash-producing unit that will use the new process is being designed.

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